

## ABSTRACT OF THE DISCLOSURE

A method for generating single stranded DNA (ssDNA) directly from double stranded PCR (dsPCR) products is described. The method generally entails: (1) amplifying a target polynucleotide by means of two oligonucleotide primers, wherein one primer is  
5 capable of hybridizing to the target polynucleotide and the other primer is capable of hybridizing to the complement of the target polynucleotide, and wherein one of the primers comprises a chemical tag, thereby producing an amplification product mixture comprising a tagged amplification product of the target polynucleotide and a complementary non-tagged amplification product; (2) applying the amplification product  
10 mixture to a separation medium, wherein the chemical tag is capable of interacting with the separation medium; and (3) eluting the amplification products from the separation medium by means of a mobile phase under denaturing conditions, wherein the interaction between the tag and the separation medium results in the physical separation of the two amplification products.